EIZO Monitor
CalMAN Setup Guide

CalMAN Display Calibration Software can automatically create optimized calibration 1D or 3D LUTs for EIZO monitors equipped with a self-calibration sensor. CalMAN controls the EIZO monitor's internal calibration sensor and test patterns to create a custom LUT file, optimized to calibrate the EIZO monitor to the selected performance standard. CalMAN then automatically loads the custom LUT file into the EIZO monitor in one of the monitors' Cal1, Cal2, or Cal3 Display Mode selections.

3D LUT or 1D LUT & Color Matrix
CG222W, CG223W, CG232W, CG242W, CG243W, CG245W, CG246, CG275W, CG276,
CS230*, CX240*, CX247*, CX270*, CX277*
*3D or 1D LUT available only with Eizo ColorNavigator license
For the EIZO ColorEdge monitors above, CalMAN can load a 3D cube LUT file into the monitor to calibrate the monitor's luminance and color throughout its entire 3D color space.
Or, CalMAN can load a 1D RGB LUT file into the monitor and adjust its color matrix to calibrate the monitor's gamma and grayscale plus its color gamut.
Note: The above monitors can be calibrated with either a 3D LUT or a 1D LUT, but not both.

1D LUT & Color Matrix
CG210, CE210W, CG211, CG220, CG221, CE240W, CG241W, CG301W, CG303W
CS230*, CX240*, CX241*, CX270*, CX271*
*1D LUT available only with Eizo ColorNavigator license
For the EIZO ColorEdge monitors above, CalMAN can load a 1D RGB LUT file into the monitor and adjust its color matrix to calibrate the monitor's gamma and grayscale plus its color gamut.

RGB Gains & Color Matrix
CS230*, CX240*, CX270*
*without Eizo ColorNavigator license
For the EIZO ColorEdge monitors above, CalMAN can adjust the monitor's RGB Gains and its color matrix to calibrate the monitor's grayscale and color gamut.

Required CalMAN Software Version:

- Version 5.4.0 or newer
- Version 5.4.1 or newer for CG247, CG277, CX241, CX271

Required CalMAN Workflow:

- **3D LUT:** Color Cube (3D LUT)
- **1D LUT & Color Matrix:** Monitor - Direct (EIZO/HP)
- **1D LUT & Color Matrix (standalone mode):** Si Advanced Calibration

EIZO Monitor Control Connection:

- USB
- Connect your EIZO monitor to the CalMAN computer with a USB cable.
- No USB driver required

EIZO Monitor Connection Modes

An Eizo monitor may normally be connected to its signal source in one of two basic modes. The monitor's normal connection mode determines the optimum calibration method to use in the following sections. The two connection modes are:

- Graphics Adapter Connection Mode - Connected to a computer's standard graphics adapter output.
- Independent Source Mode - Connected to another signal source (e.g. signal router, video adapter device, etc.).

Calibration Procedure Selection

Click on one of the links below to jump to the desired calibration procedure for an Eizo monitor that is connected either to a computer's standard graphics adapter output or to an independent signal source.

Graphics Adapter Connection Mode Calibration

Calibrate 3D LUT - Color Cube (3D LUT) workflow

Calibrate 1D LUT & Color Matrix - Monitor - Direct (EIZO/HP) workflow

Calibrate RGB Gains & Color Matrix - Monitor - Direct (EIZO/HP) workflow

Independent Source Mode Calibration

Calibrate 3D LUT - Color Cube (3D LUT) workflow

Calibrate 1D LUT & Color Matrix - SI Advanced Calibration workflow

Calibrate RGB Gains & Color Matrix - SI Advanced Calibration workflow

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Graphics Adapter Connection Mode Calibration

Calibrate 3D LUT

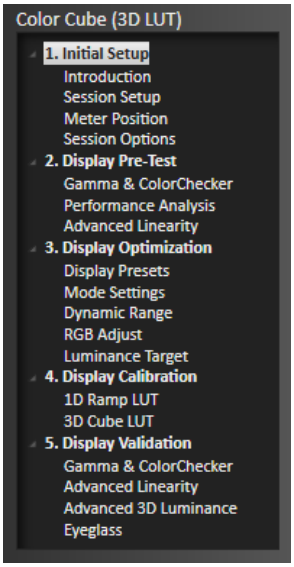
Follow this procedure to automatically create and load an optimized 3D LUT monitor calibration file into an EIZO monitor that is normally connected to a computer's standard graphics adapter output.
To instead create a 1D LUT and ICC Profile, click the following link to jump to the 1D LUT & Color Matrix calibration section, below.

Color Cube (3D LUT) Workflow

The Color Cube workflow in CalMAN is used to create display calibration 3D cube LUTs. In the CalMAN main menu, select Open Workflow Template / Color Cube (3D LUT). Proceed through the instructions in each step of the Color Cube workflow, using the following notes for EIZO monitor specifics.

1. Initial Setup section

In the Initial Setup section of the Color Cube workflow, step through the following pages:



a. Session Setup - Meter Connect

For monitors without a supported built-in meter, connect your external color meter to the CalMAN computer.

On the *Session Setup* page, click the *Find Meter* button. On the *Find Meters* dialog, select either your Eizo display meter, or your externally connected meter if it is listed, then click *Search*. If your external color meter is not listed on the *Find Meters* dialog, just click *Search*.

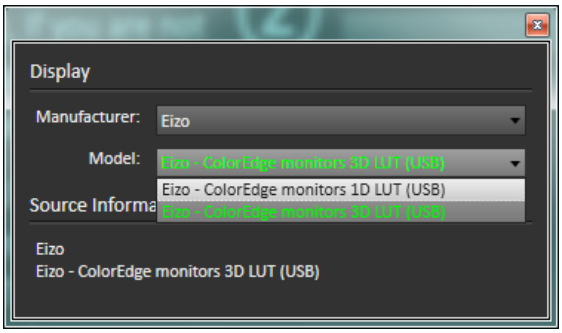
Under the Target Display Type drop down, if the Eizo monitor has wide color gamut that "reproduces 97% of Adobe RGB color space," select "LCD (LED Wide Gamut)." If the monitor is not wide gamut, select "LCD (LED)."

b. Session Setup - Source Connect

For Eizo monitors that provide internal test patterns (listed above), on the *Session Setup* page, click the *Find Source* button. On the *Source* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors."
Note: The internal test patterns cannot be used on an Eizo monitor that is being used a workstation's primary display.
For cases where you can't or don't wish to use EIZO internal test patterns, use CalMAN Client 3 or a hardware test pattern generator as the source.

c. Session Setup - LUT Device Setup

On the *Session Setup* page, click the *Find 3D LUT Device* button. On the *Display* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors 3D LUT."



Note: Because the Eizo monitors have only one 3D LUT per input, there are no selections available in the 3D LUT Memory drop down, on the LUT Device Setup page.

Also on the *Display Control* tab, select the Display Mode that corresponds to the monitor input that you are calibrating. See the table below:

Eizo Monitor	Display Mode
CG222W, CG232W, CG242W	Cal – for all inputs
CG223W, CG243W, CG245W	CAL1 – for DVI-1
	CAL2 – for DVI-2
	CAL3 – for DisplayPort
CG275W	CAL1 – for DVI
	CAL2 – for DisplayPort-1
	CAL3 – for DisplayPort-2
CG246, CG276 CS230*, CX240*, CX270*	CAL1 – for DVI
	CAL2 – for DisplayPort
	CAL3 – for HDMI

*3D or 1D LUT available only with Eizo ColorNavigator license

Note: On some Eizo monitors, there are additional display modes available, which are global across all inputs. These additional modes do not support 3D LUT calibration.

d. Session Options page

On the *Session Options* page, be sure to select the Input Signal Levels, either *Video (16-235)* or *PC (0-255)*, which matches the signal levels that are normally supplied to the monitor input that you are calibrating.

2. Display Pre-Test section

In the *Display Pre-Test* section of the Color Cube workflow, you can measure the performance of a display before you calibrate it, on the *Gamma & ColorChecker* page and on the *Advanced Linearity* page. On the *Performance Analysis* page, these monitor measurements are then evaluated in a series of pass/fail performance parameters.

If the monitor fails in any of these parameters, you should consider using the following *Display Optimization* section of the workflow to optimize adjustments on the monitor itself.

If the monitor passes all of these parameters, you can skip the *Display Optimization* section of the workflow and go immediately to the *Display Calibration* section of the workflow.

3. Display Optimization section

In the *Display Optimization* section of the Color Cube workflow, you are guided to optimize monitor settings for picture mode, color gamut, color temp, gamma, dynamic range, white point balance, and white point luminance.

On the *RGB Adjust* page, under the *RGB Adjust Levels* selection, select "2 Point 30, 100%." Click *Read Continuous* and adjust the monitor's RGB Gain controls for RGB balance at 100%.

4. Display Calibration section

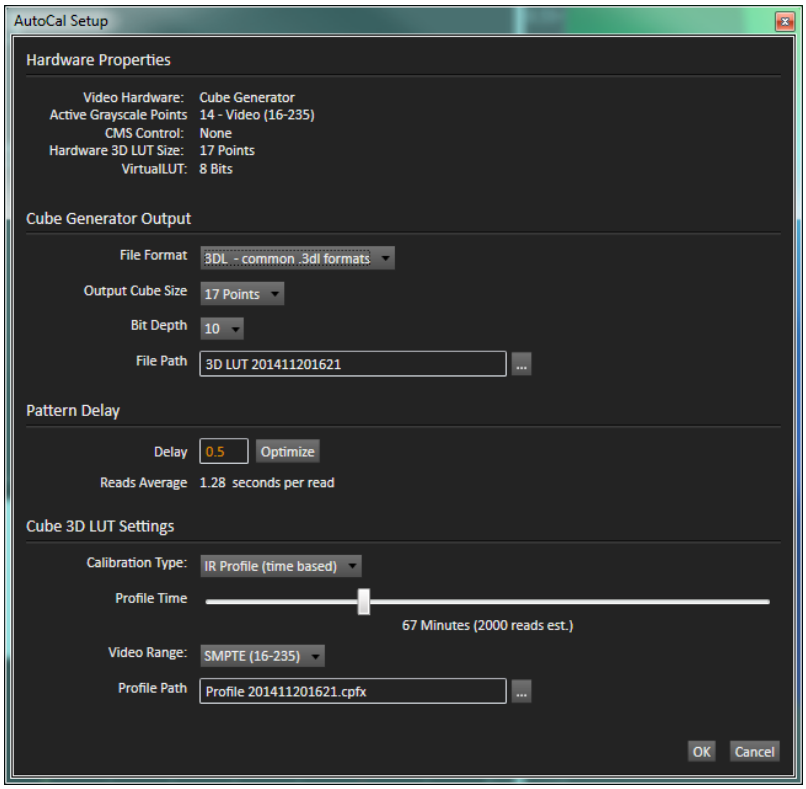
In the *Display Calibration* section of the Color Cube workflow, there are provisions for calibrating both a 1D RGB LUT (*1D Ramp LUT* page) and a 3D cube LUT (*3D Cube LUT* page). When we are calibrating an EIZO monitor with a 3D LUT, we will skip the *1D Ramp LUT* page (1D RGB LUT) and use only the *3D Cube LUT* page.
Note: Eizo monitors can be calibrated with either a 1D LUT or a 3D LUT (supported models), but not both.

a. 1D Ramp LUT page

Skip over the *1D Ramp LUT* page when creating a 3D LUT file for an EIZO monitor.

b. 3D Cube LUT page

1. On the *3D Cube LUT* page, click the *AutoCal* (rotating arrows) button at the right end of the meter action buttons. The *AutoCal Setup* dialog then appears (see below).


AutoCal Setup
Hardware Properties
Video Hardware: Cube Generator
Active Grayscale Points 14 - Video (16-235)
CMS Control: None
Hardware 3D LUT Size: 17 Points
VirtualLUT: 8 Bits
Cube Generator Output
File Format 3DL - common .3dl formats
Output Cube Size 17 Points
Bit Depth 10
File Path 3D LUT 201411201621
Pattern Delay
Delay 0.5 Optimize
Reads Average 1.28 seconds per read
Cube 3D LUT Settings
Calibration Type: IR Profile (time based)
Profile Time
67 Minutes (2000 reads est.)
Video Range: SMPTE (16-235)
Profile Path Profile 201411201621.cpfx
OK Cancel

2. For *File Format*, select "3DL – common .3dl formats."
3. For *Output Cube Size*, select "17 Points."
4. For *Bit Depth*, select "16."
5. Under *File Path*, select the desired directory path and provide a name for the LUT file that CalMAN will create (e.g. monitor ID and date).
6. Under *Calibration Type*, select the desired type of 3D LUT calibration process.
    - **IR Profile (time based)**: Creates the best quality display calibration 3D LUT possible in the selected period of time. You select how much display quality you have time for, from 30 minutes to maximum display quality (6,000 points max). Uses Intelligent Resolution Profiling to search out the most nonlinear color space areas and correct those first.
    - **IR Profile (point based)**: Creates the best quality display calibration 3D LUT possible with the selected number of measurement points (1,000 - 10,000 points). Uses Intelligent Resolution Profiling to search out the most nonlinear color space areas and correct those first.
    - **Lightning LUT**: Creates a display calibration 3D LUT in five minutes or less. Produces a very high quality result on professional displays with moderate linearity. Displays with significant nonlinearity may produce marginal results.
7. Under *Video Range*, select "SMPTE (16-235)" if you are calibrating a video display that clips signal values above reference white.

8. Click *OK*.

Upon completion of the AutoCal 3D hardware LUT calibration process, CalMAN automatically loads the optimized 17x17x17 LUT calibration data into the EIZO monitor.

Note: Once an optimized 3D LUT has been loaded into an Eizo monitor, there is no need for, or advantage to, creating an ICC profile for the monitor.

5. Display Validation section

When the cube calibration completes, CalMAN automatically loads the optimized 17x17x17 LUT calibration data into the EIZO monitor. You can test the performance of the monitor, in the *Display Validation* section of the Color Cube workflow, to verify the accuracy of the monitor when using the 3D calibration LUT. You can switch back to the *Gamma & ColorChecker* Pre-Test page to compare to the pre-calibration performance.

DONE – You are done with the 3D LUT monitor calibration for an EIZO monitor that is normally connected to a computer's standard graphics adapter output.

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Graphics Adapter Connection Mode Calibration

Calibrate 1D LUT, Color Matrix, and ICC Profile, or

Calibrate RGB Gains, Color Matrix, and ICC Profile

Follow this procedure to automatically create and load an optimized 1D LUT monitor calibration file (or adjust RGB Gains), adjust the color matrix, and then create an ICC profile for an Eizo monitor that is normally connected to a computer's standard graphics adapter output.

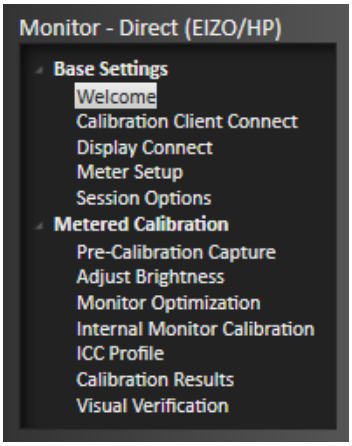
To instead create a 3D LUT file, click the following link to jump to the 3D LUT calibration section, above.

Note: If you have already calibrated the Eizo monitor with a 3D LUT, the monitor calibration is complete. You should not attempt to also create a 1D LUT for the monitor.

Monitor - Direct (EIZO/HP) Workflow

The Monitor - Direct (EIZO/HP) workflow in CalMAN is used to automatically create a 1D display calibration LUT, adjust the color matrix, and create an ICC profile. To open this CalMAN workflow, in the main menu select Open Workflow Template / Monitor - Direct (EIZO/HP). Proceed through the instructions in each step of the Monitor Direct workflow, using the following notes for EIZO monitor specifics.

1. Base Settings section



In the Base Settings section of the Monitor - Direct (EIZO/HP) workflow, step through the following pages:

a. Calibration Client Connect

To connect to CalMAN Client 3 on the local computer on which CalMAN is running, in order to calibrate an Eizo monitor on the local computer, click the "Local Client Connect" button. CalMAN will automatically connect to the locally installed CalMAN Client 3 as a Source device and as a Display Control device.

To connect to CalMAN Client 3 on another computer on the local network, in order to calibrate an Eizo monitor on that computer, click the "Networked Client Connect" button. On the *Source* dialog, under *Manufacturer*, select "SpectraCal." Under *Model*, select "SpectraCal – CalMAN Client 3 Pattern Source." In the Socket Connection search box, select the IP address for the desired target computer, and then click Connect.

Note: The Eizo internal test patterns are not an advantage in this situation, and cannot be used on an Eizo monitor that is being used as a workstation's primary display.

Note: Because the Eizo monitors have only one 1D LUT per input, there are no selections available in the Select Monitor and Calibration Memory drop down *on this Calibration Client Connect page.*

b. Display Connect

On the *Display Connect* page, follow the instructions to make a USB connection from the CalMAN computer to the Eizo monitor that is to be calibrated. Click the "Eizo Connect" button.

This USB connection will be used to load calibration data into the target monitor.

Note: If more than one Eizo monitor is connected to the computer, disconnect all the Eizo monitors except for the one that you are currently calibrating.

c. Meter Setup

For monitors without a supported built-in meter, connect your external color meter to the CalMAN computer.

On the *Meter Connect* page, click the *Find Meter* button. On the *Find Meters* dialog, select either your Eizo display meter, or your externally connected meter if it is listed, then click *Search*. If your external color meter is not listed on the *Find Meters* dialog, just click *Search*.

Under the Target Display Type drop down, if the Eizo monitor has wide color gamut that "reproduces 97% of Adobe RGB color space," select "LCD (LED Wide Gamut)." If the monitor is not wide gamut, select "LCD (LED)."

d. Session Options

On the *Session Options* page, confirm that the listed monitor and display mode are correct. If not, step back to the Select Monitor and Calibration Memory drop down*, on the Calibration Client Connect* page, to make the desired selection.

Make any desired changes to the default White Point and Gamma targets.

Note: This workflow defaults to PC (0-255) for Input Signal Levels. This is required to support 1D LUT calibration.

2. Metered Calibration section

In the Metered Calibration section of the Monitor - Direct (EIZO/HP) workflow, step through the following pages:

a. Pre-Calibration Capture

On the *Pre-Calibration Capture* page, you can measure the monitor's performance before you calibrate it. When you click the *Read Series* button, CalMAN measures the monitor's grayscale balance, the luminance at reference white, and the ColorChecker error across the monitor's color gamut.

b. Adjust Brightness

On the *Adjust Brightness* page, you can change the monitor's luminance output by adjusting its Brightness control. Click the CalMAN *AutoCal* button and input your desired White Level Target to automatically adjust the Brightness control. Or, click the *Read Continuous* button and adjust the software Brightness control in CalMAN to change the white level luminance.

c. Monitor Optimization

Perform this RGB Gains calibration step only if the Eizo monitor does not have a full 1D LUT available. An available 1D LUT will be calibrated on the following CalMAN page.

On the *Monitor Optimization* page, you can optimize the Eizo monitor's RGB Gain and RGB Black Level controls. There is no need to set the Eizo Color Temperature control, as it is automatically set to *User* when the RGB controls are adjusted. Click the CalMAN *AutoCal* button and select "2 Point 30, 100%" to automatically adjust these grayscale controls.

d. Internal Monitor Calibration

On the *Monitor Optimization* page, CalMAN automatically adjusts the Eizo monitor's output 1D LUT to calibrate gamma and adjusts its color matrix to calibrate CMS. Click the CalMAN *AutoCal* button to start the automatic calibration process.

Note: If the Eizo monitor does not have an internal 1D LUT, use the previous CalMAN page to calibrate the monitor's RGB Gain controls.

e. ICC Profile

On the *ICC Profile* page, CalMAN automatically measures the Eizo monitor's color primaries and its grayscale levels. It then creates an ICC profile that it writes to the computer that is driving the Eizo monitor. Click the CalMAN *AutoCal* button to start the automatic ICC profile process.

f. Calibration Results

On the *Calibration Results* page, CalMAN displays the monitor measurement data from the previous Pre-Calibration Capture page. It also automatically measures the monitor's post-calibration performance and displays the results for comparison. Click the CalMAN *Read Series* button to start the post-calibration measurement.

g. Visual Verification

On the *Visual Verification* page, CalMAN displays comparison chip charts for the monitor's pre-calibration and post-calibration grayscale performance and ColorChecker performance. It also displays a variety of photo images on the calibrated display, with the option to disable the ICC Profile for comparison.

DONE – You are done with the 1D LUT/CMS/ICC monitor calibration for an EIZO monitor that is normally connected to a computer's standard graphics adapter output.

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Independent Source Mode Calibration

Calibrate 3D LUT

Follow this procedure to automatically create and load an optimized 3D LUT monitor calibration file into an Eizo monitor that is normally connected to an independent signal source, such as a signal router or video adapter device (not directly connected to a computer's standard graphics adapter output).

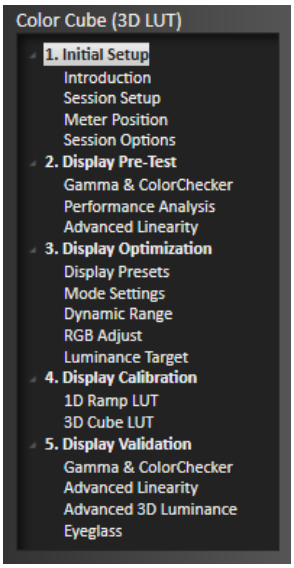
To instead create a 1D LUT and adjust the color matrix, click the following link to jump to the 1D LUT & Color Matrix calibration section, below.

Color Cube (3D LUT) Workflow

The Color Cube workflow in CalMAN is used to create display calibration 3D cube LUTs. In the CalMAN main menu, select Open Workflow Template / Color Cube (3D LUT). Proceed through the instructions in each step of the Color Cube workflow, using the following notes for EIZO monitor specifics.

1. Initial Setup section

In the Initial Setup section of the Color Cube workflow, step through the following pages:



a. Session Setup - Meter Connect

For monitors without a supported built-in meter, connect your external color meter to the CalMAN computer.

On the *Session Setup* page, click the *Find Meter* button. On the *Find Meters* dialog, select either your Eizo display meter, or your externally connected meter if it is listed, then click *Search*. If your external color meter is not listed on the *Find Meters* dialog, just click *Search*.

Under the Target Display Type drop down, if the Eizo monitor has wide color gamut that "reproduces 97% of Adobe RGB color space," select "LCD (LED Wide Gamut)." If the monitor is not wide gamut, select "LCD (LED)."

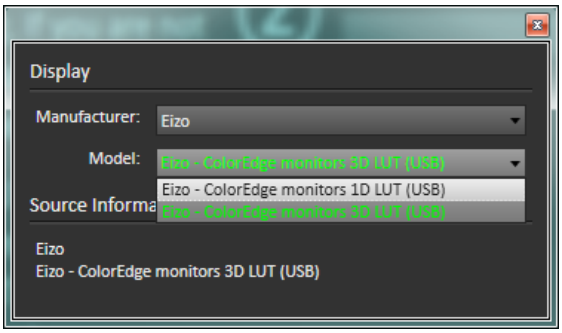
b. Session Setup - Source Connect

For Eizo monitors that provide internal test patterns (listed above), on the *Session Setup* page, click the *Find Source* button. On the *Source* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors."

For cases where you can't or don't wish to use EIZO internal test patterns, use a hardware test pattern generator as the source.

c. Session Setup - LUT Device Setup

On the *Session Setup* page, click the *Find 3D LUT Device* button. On the *Display* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors 3D LUT."



Note: Because the Eizo monitors have only one 3D LUT per input, there are no selections available in the 3D LUT Memory drop down, on the LUT Device Setup page.

Also on the *Display Control* tab, select the Display Mode that corresponds to the monitor input that you are calibrating. See the table below:

Eizo Monitor	Display Mode
CG222W, CG232W, CG242W	Cal – for all inputs
CG223W, CG243W, CG245W	CAL1 – for DVI-1
	CAL2 – for DVI-2
	CAL3 – for DisplayPort
CG275W	CAL1 – for DVI
	CAL2 – for DisplayPort-1
	CAL3 – for DisplayPort-2
CG246, CG276 CS230*, CX240*, CX270*	CAL1 – for DVI
	CAL2 – for DisplayPort
	CAL3 – for HDMI

*3D or 1D LUT available only with Eizo ColorNavigator license

Note: On some Eizo monitors, there are additional display modes available, which are global across all inputs. These additional modes do not support 3D LUT calibration.

d. Session Options page

On the *Session Options* page, be sure to select the Input Signal Levels, either *Video (16-235)* or *PC (0-255)*, which matches the signal levels that are normally supplied to the monitor input that you are calibrating.

2. Display Pre-Test section

In the *Display Pre-Test* section of the Color Cube workflow, on the *Gamma & ColorChecker* and *Check Linearity* pages, you can measure the performance of the monitor before you calibrate it. On the *Performance Analysis* page, these monitor measurements are then evaluated in a series of pass/fail performance parameters.

If the monitor fails in any of these parameters, you should consider using the following *Display Optimization* section of the workflow to optimize adjustments on the monitor itself.

If the monitor passes all of these parameters, you can skip the *Display Optimization* section of the workflow and go immediately to the *Display Calibration* section of the workflow.

3. Display Optimization section

In the *Display Optimization* section of the Color Cube workflow, you are guided to optimize monitor settings for picture mode, color gamut, color temp, gamma, dynamic range, white point balance, and white point luminance.

On the *RGB Adjust* page, under the *RGB Adjust Levels* selection, select "2 Point 30, 100%." Click *Read Continuous* and adjust the monitor's RGB Gain controls for RGB balance at 100%.

4. Display Calibration section

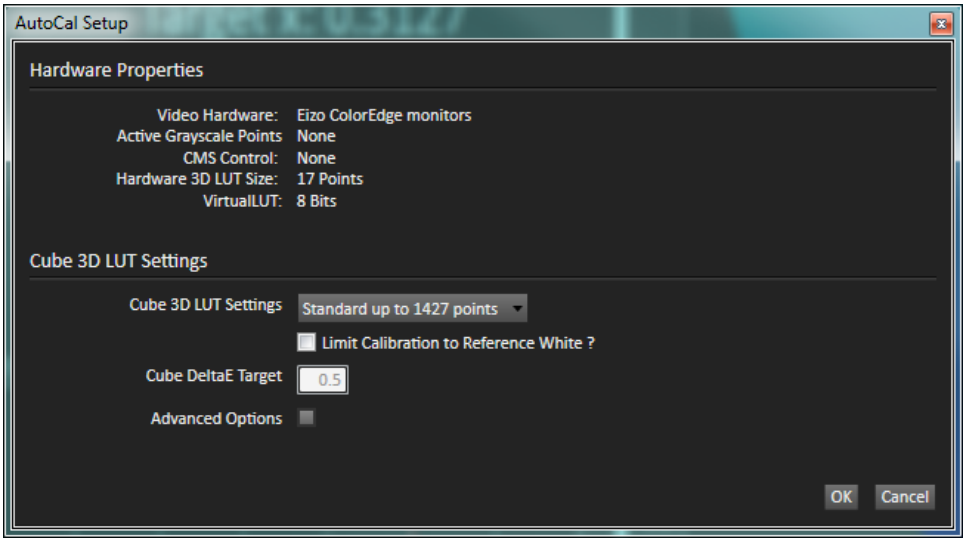
In the *Display Calibration* section of the Color Cube workflow, there are provisions for calibrating both a 1D RGB LUT (1D Ramp LUT page) and a 3D cube LUT (3D Cube LUT page). When we are calibrating an EIZO monitor with a 3D LUT, we will skip the *1D Ramp LUT* page and use only the *3D Cube LUT* page.
Note: Eizo monitors can be calibrated with either a 1D LUT or a 3D LUT (supported models), but not both.

c. 1D Ramp LUT page

Skip over the *1D Ramp LUT* page when creating a 3D LUT file for an EIZO monitor.

d. 3D Cube LUT page

On the *3D Cube LUT* page, click the AutoCal (rotating arrows) button at the right end of the meter action buttons. The following *AutoCal Setup* dialog then appears:



a) For *File Format*, select "3DL – common .3dl formats."
b) For *Output Cube Size*, select "17 Points."
c) For *Bit Depth*, select "16."
d) For *Cube 3D LUT Settings*, select your desired number of cube optimization points.
e) Click the *OK* button to initiate the 3D cube LUT calibration process.

Upon completion of the AutoCal 3D hardware LUT calibration process, CalMAN automatically loads the optimized 17x17x17 LUT calibration data into the EIZO monitor.

Note: Once an optimized 3D LUT has been loaded into an Eizo monitor, there is no need for or advantage to creating an ICC profile for the monitor.

5. Display Validation section

When the cube calibration completes, CalMAN automatically loads the optimized 17x17x17 LUT calibration data into the EIZO monitor. You can test the performance of the monitor, in the *Display Validation* section of the Color Cube workflow, to verify the accuracy of the monitor when using the 3D calibration LUT. You can switch back to the *Gamma & ColorChecker* page to compare to the pre-calibration performance.

DONE – You are done with the 3D LUT monitor calibration for an EIZO monitor that is not normally connected to a computer's standard graphics adapter output.

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Independent Source Mode Calibration

Calibrate 1D LUT & Color Matrix, or

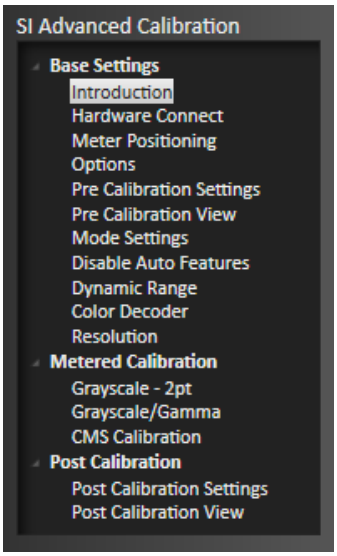
Calibrate RGB Gains & Color Matrix

Follow this procedure to automatically create and load an optimized 1D LUT monitor calibration file (or adjust RGB Gains) and adjust the color matrix for an Eizo monitor that is normally connected to an independent signal source, such as a signal router or video adapter device (not directly connected to a computer's standard graphics adapter output).

To instead create a 3D LUT file, click the following link to jump to the 3D LUT Calibration section, above.

Note: If you have already calibrated the Eizo monitor with a 3D LUT, the monitor calibration is complete. You should not attempt to also create a 1D LUT for the monitor.

SI Advanced Calibration Workflow



The SI Advanced Calibration workflow in CalMAN is used to automatically create a 1D display calibration LUT, adjust the color matrix, and create an ICC profile. To open this CalMAN workflow, in the main menu select Open Workflow Template / SI Advanced Calibration. Proceed through the instruction in each step of the SI Advanced Calibration workflow, using the following notes for Eizo monitor specifics.

1. Base Settings section

In the Base Settings section of the SI Advanced Calibration workflow, step through the following pages to prepare for automatic monitor calibration:

a. Hardware Connect

Follow the instructions on the *Hardware Connect* page to connect to your meter and to connect to your Eizo display, both as a test pattern source and for display control. If you haven't already done so, connect the Eizo display to the host calibration computer with a USB cable, as detailed in the initial setup section above.

Meter - For monitors without a supported built-in meter, connect your external color meter to the CalMAN computer.

On the *Meter Connect* page, click the *Find Meter* button. On the *Find Meters* dialog, select either your Eizo display meter, or your externally connected meter if it is listed, then click *Search*. If your external color meter is not listed on the *Find Meters* dialog, just click *Search*.

Under the Target Display Type drop down, if the Eizo monitor has wide color gamut that "reproduces 97% of Adobe RGB color space," select "LCD (LED Wide Gamut)." If the monitor is not wide gamut, select "LCD (LED)."

Source – For Eizo monitors that provide internal test patterns, on the *Source Connect* page, click the *Find Source* button. On the *Source* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors."

For cases where you can't or don't wish to use EIZO internal test patterns, use a hardware test pattern generator as the source.

Display Control – On the *Display Connect* page, click the *Find Processor/Display* button. On the *Display* dialog, under *Manufacturer*, select "Eizo." Under *Model*, select "Eizo – ColorEdge monitors 3D LUT."

On the *Display Control* tab, select the Display Mode that corresponds to the monitor input that you are calibrating. See the table below:

Eizo Monitor	Display Mode
CG222W, CG232W, CG242W	Cal – for all inputs
CG223W, CG243W, CG245W	CAL1 – for DVI-1
	CAL2 – for DVI-2
	CAL3 – for DisplayPort
CG275W	CAL1 – for DVI
	CAL2 – for DisplayPort-1
	CAL3 – for DisplayPort-2
CG246, CG276 CS230*, CX240*, CX270*	CAL1 – for DVI
	CAL2 – for DisplayPort
	CAL3 – for HDMI

*3D or 1D LUT available only with Eizo ColorNavigator license

b. Meter Positioning

Position your color meter at the center of the EIZO screen, touching the screen.

c. Options

I. On the *Session Options* page, make any desired changes to the default Color Space, White Point, and Gamma targets.

II. On the Settings tab (gear wheel), select either "Video (16-235)" or "PC (0-255)" for *Luminance Levels*, to match your normal signal content.
Note: Although these selections are labeled in 8-bit levels, the output bit depth is determined by the signal output device.

d. Pre Calibration Settings

If you wish to document the monitor's control settings prior to calibration, you can record that information on this page. This information will then be available on a calibration report.

e. Pre Calibration View

If you wish to document the monitor's performance prior to calibration, you can do that on this page. This information will then be available on a calibration report.

f. Mode Settings

On the Mode Settings page, you can make monitor measurements to help decide which modes in which to operate the monitor for calibration.

g. Disable Auto Features

Skip this page. The Eizo monitor has no automatic features that require disabling.

h. Dynamic Range

Follow the instructions on the Dynamic Range page to adjust the monitor's Contrast control as high as possible without causing one of the red, green, or blue lines to become nonlinear. Do not be concerned that the RGB lines are separated from each other at this point in the calibration process.

Adjust the monitor's Brightness control to produce the desired maximum luminance level.

i. Color Decoder

Skip this page. The Eizo monitor has no color decoder with its associated color and tint controls.

j. Resolution

Skip this page. The Eizo monitor has no controls that can degrade resolution.

2. Metered Calibration Section

In the Metered Calibration section of the SI Advanced Calibration workflow, step through the following pages to calibrate the Eizo monitor's 1D LUT (or RGB Gains) and color matrix:

a. Grayscale – 2pt

Perform this Grayscale – 2pt calibration step only if the Eizo monitor does not have a full 1D LUT available. An available 1D LUT will be calibrated on the following CalMAN page.

On the *Grayscale – 2pt* page, you can optimize the Eizo monitor's RGB Gain and RGB Black Level controls. There is no need to set the Eizo Color Temperature control, as it is automatically set to *User* when the RGB controls are adjusted. Click the CalMAN *AutoCal* button and select "2 Point 30, 100%" to automatically adjust these grayscale controls.

b. Grayscale/Gamma

On the *Grayscale/Gamma* page, CalMAN automatically adjusts the Eizo monitor's output 1D LUT to calibrate gamma and grayscale tracking. Click the CalMAN *AutoCal* button to start the automatic calibration process.

Note: If the Eizo monitor does not have an internal 1D LUT, use the previous Grayscale – 2pt page to calibrate the monitor's RGB Gain controls.

c. CMS Calibration

On the *CMS Color Gamut* page, CalMAN automatically adjusts the Eizo monitor's color matrix to calibrate CMS. Click the CalMAN *AutoCal* button to start the automatic calibration process.

Note: When calibrating the Eizo monitor's 1D LUT, a better final result is obtained by first calibrating CMS, then Grayscale/Gamma, then repeating the CMS calibration.

3. Post Calibration Section

In the Post Calibration section of the SI Advanced Calibration workflow, step through the following pages to check and document the Eizo monitor calibration:

a. Post Calibration Settings

If you wish to document the monitor's control settings after calibration, you can record that information on this page. This information will then be available on a calibration report.

b. Post Calibration View

If you wish to document the monitor's performance prior to calibration, you can do that on this page. This information will then be available on a calibration report.

DONE – You are done with the 1D LUT/CMS/ICC monitor calibration for an EIZO monitor that is not normally connected to a computer's standard graphics adapter output.